MUIR BEACH BACKGROUND DATA

Note to the reader:
The following information was taken from a technical memorandum that is still in draft stage and not available for public review at this time. My client has permitted the following excerpts from that draft document to be shared with the Big Lagoon Committee for the intended purpose of discussing parking lot alternatives for that particular site.
– Doug Widmayer, Project Manager

1. Site Description

The NPS manages this beach area as part of the GGNRA. The area includes a parking area, beach frontage, and some trail connections. The site is located adjacent to the community of Muir Beach and has a single access route to Shoreline Highway via Pacific Way. The parking area is a 175-space gravel surface parking lot with a one-way circulation pattern. There are no delineated parking spaces. The parking area provides access to the beach and the Coastal and Green Gulch trails. This Park unit is used by beach patrons and trail hikers. Visitation is weather dependent, with the greatest use during summer months.

2. Findings from Intercept Surveys

The following information is a summary of key findings that relate specifically to Muir Beach. This information is based on the results of 743 visitor surveys administered at Muir Beach during 2001 and 2002.

- 66% of all visitors to Muir Beach are Bay Area residents.
- Of the Bay Area resident visitors 35% live in Marin County (20% live in Mill Valley), 20% live in the east Bay Area, and 18% live in San Francisco.
- 38% are first-time visitors to the site.
- 61% of visitors made their decision to visit the site on the same day as the visit.
- 23% of people at the site come to do hiking/jogging.
- 17% have visited or plan to visit Muir Woods on the same day of the visit to Muir Beach.
- 67% of all trips to the site originate from the visitors' homes.
- 20% of visitors have a pet with them in their group.
- 18% bring an ice chest/cooler/picnic basket.
- 16% of all visitors would prefer not to use a shuttle to get to Muir Beach.

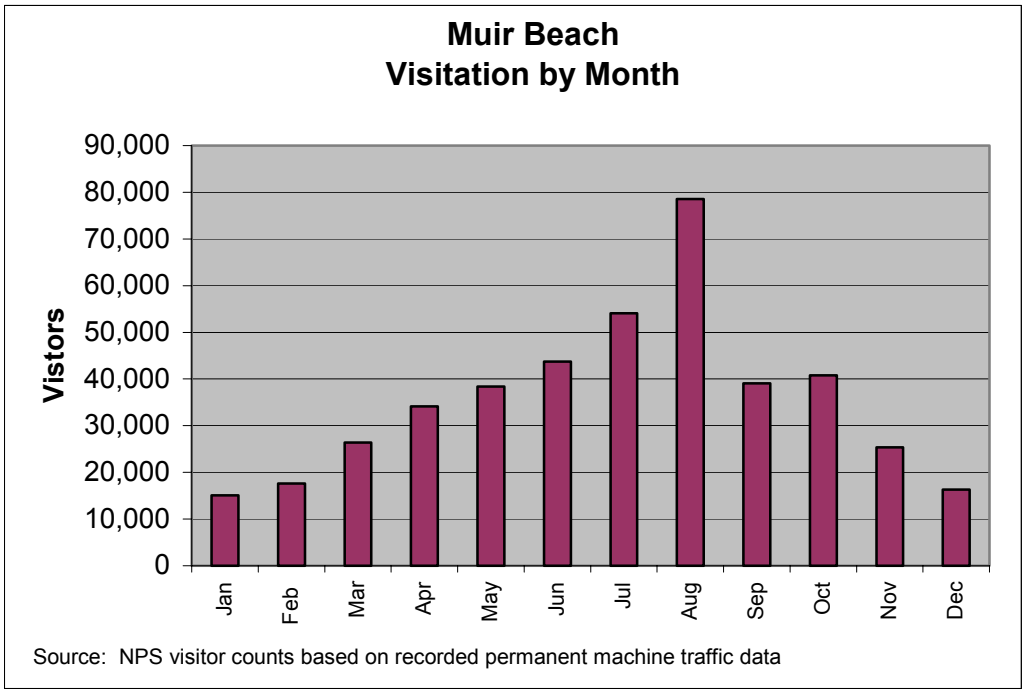
Summary – Most of the visitors to this site are Bay Area residents, many of which live in Marin County. Most visitors have been here before and the majority make the decision to come on the same day as the visit. Although many visitors to this site could use a mass transit option if the proper incentives were implemented, visitors bringing beach gear and/or their pet will be less likely to use a mass transit access option.

3. Muir Beach Visitation

The NPS collects monthly traffic volume data at the entrance to Muir Beach. This information is the only source of visitation data available for this park site. Unfortunately the traffic counter has been malfunctioning in recent years producing incomplete data. The last full year of reliable data is 1998. This data is still considered an acceptable means to describe the visitation trends at this park site. The monthly visitation patterns gained from this traffic data are shown in **FIGURE 1.**

The data clearly shows that the summer months receive the greatest amounts of visitation and that the visitation drops off significantly in the spring and fall shoulder seasons and is at an annual low during the winter. This is almost entirely due to weather conditions. The beach activities that take place at this site are apparently very weather dependent. Visitation is greater during the months with more warm sunny days and significantly less during months when there are more foggy, rainy, or cold days. Higher visitation during the summer months also corresponds to the logic that going to the beach is a traditional summer activity for many families.

FIGURE 1: Muir Beach 1998 Visitation



2. Vehicle Occupancy

Knowledge of the number of people that use the Parklands area is important when considering possible solutions such as transit options for a particular site. It is also essential for sizing any form of alternative transportation. The number of visitors using a particular site is also useful to Park planners when sizing visitor-use facilities. A vehicle occupancy study was conducted to determine how many people were in the vehicles going to the various Park sites. The vehicle occupancy is defined as the number of people

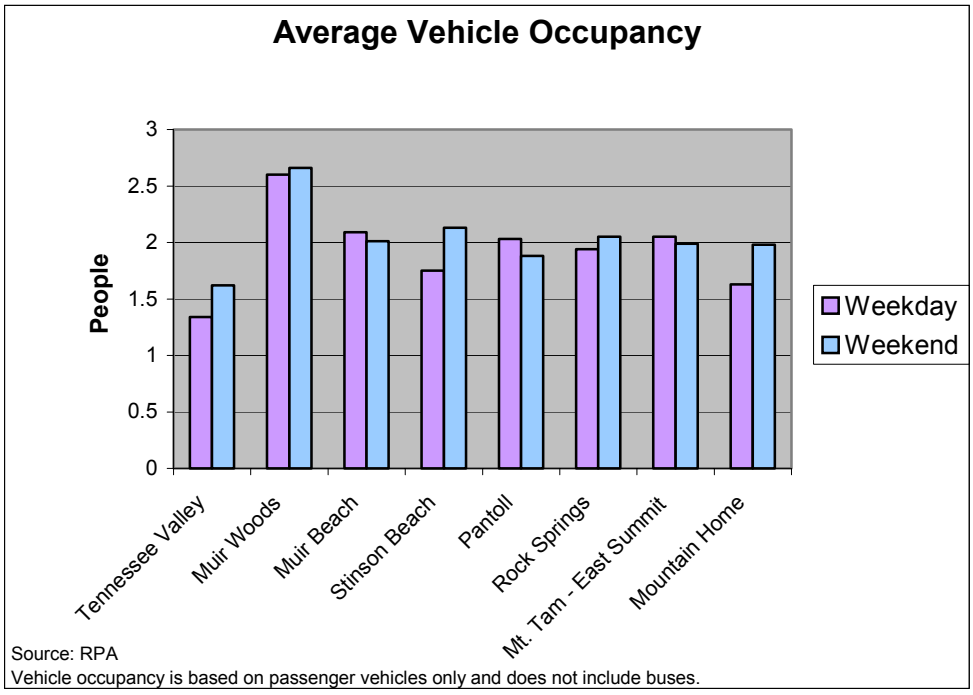
in a vehicle including the driver. This information allows us to quantify the visitors using a facility.

Vehicle occupancy was measured at the entrance to eight parking area during May 2002, including the parking areas at Tennessee Valley, Muir Woods, Muir Beach, Stinson Beach, Pantoll, Rock Springs, Mt. Tam–East Summit, and Mountain Home. The vehicle occupancy data was collected by manual observation of 5,019 total vehicles at the eight sites. The occupancy counts did not include buses nor were the number of buses counted. The data was collected on days when the weather was considered good (sunny or partly cloudy) and when traffic conditions were considered normal for that season.

The results of the vehicle occupancy study are shown in **FIGURE 2**. The average occupancy hovers around two people per vehicle at all sites. Average occupancies ranged from a low of 1.34 to a high of 2.66. Typically, the weekend has a slightly higher vehicle occupancy rate than weekdays. The site with the greatest vehicle occupancy was Muir Woods with 2.6 people per vehicle. This is likely due to the fact that this National Monument has a distinctly different type of visitor. Visitors to Muir Woods are more likely to be from outside of the Bay Area and more likely to be on a family vacation therefore accounting for the slightly higher vehicle occupancy rate. The site with the lowest occupancy rate was Tennessee Valley with 1.4 - 1.6 people per vehicle. This site also has somewhat unique visitor. The typical visitor to this site is local to the area and likely to be going for some form of daily exercise. Therefore a larger percentage of single occupancy vehicles were observed at this site producing the somewhat lower vehicle occupancy rate. At most locations the average vehicle occupancy is slightly higher on the weekend than on the weekday. This is likely due to lager family-oriented activities occurring on the weekends.

The results are considered to be an excellent representation of typical conditions due to the size of the sample used for this analysis. The vehicle occupancy figures are not expected to vary significantly from what is described in this analysis.

Figure 2: Vehicle Occupancy

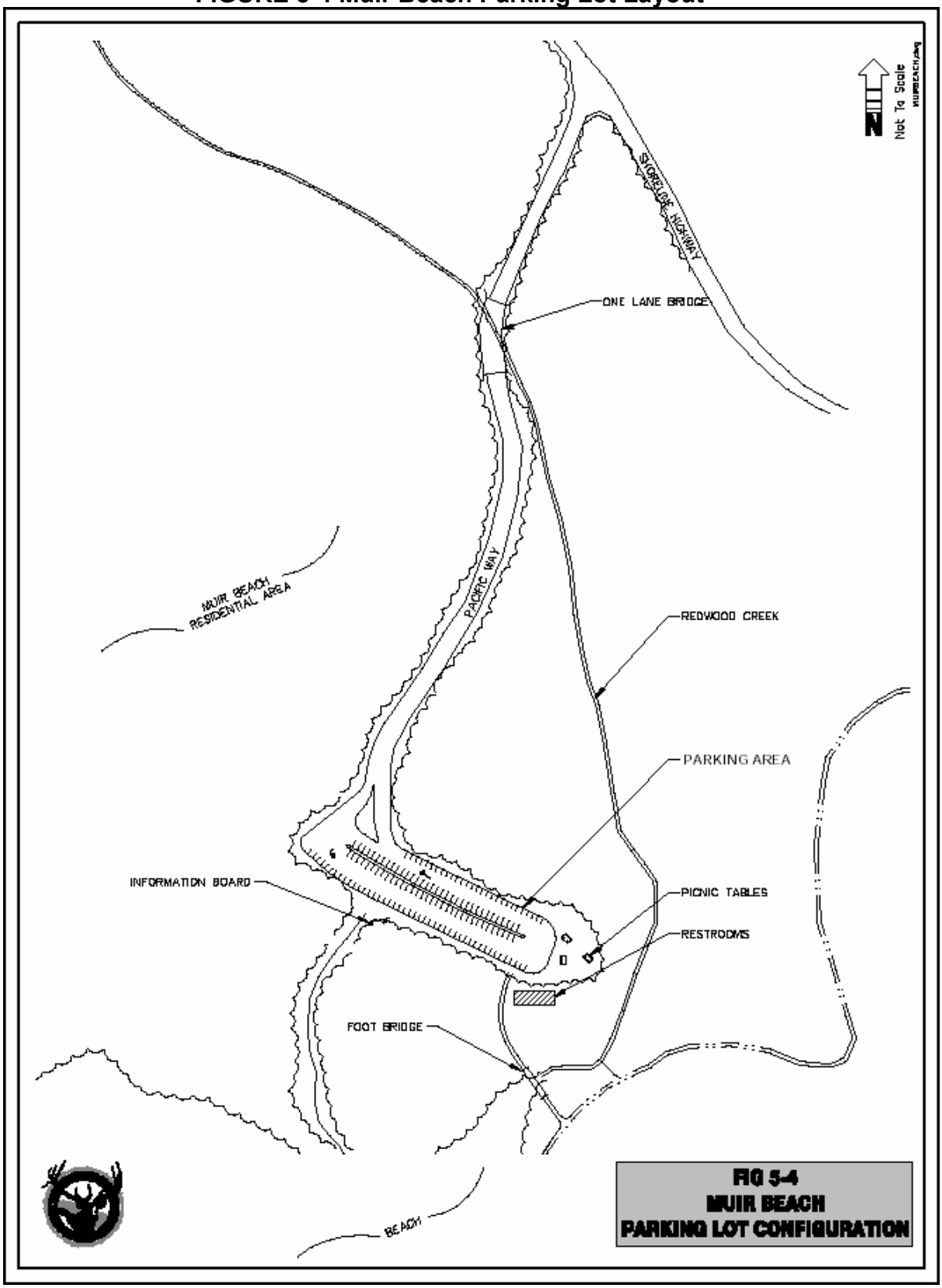


Source: RPA
Vehicle occupancy is based on passenger vehicles only and does not include buses.

3. Parking Supply - Muir Beach [175 spaces +/-]

- The parking lot layout is shown in **FIGURE 5-4**.
- Muir Beach is served by a single gravel parking area located at the end of Pacific Way.
- The parking lot has a one-way traffic pattern but no defined parking stalls. The parking lot capacity (175) can vary up or down by perhaps 10 vehicles depending on how close the vehicles park to one another.
- A small portion of the parking area has been designated for handicap vehicles.
- Portable restrooms, picnic facilities, information boards, and a telephone are provided at the parking area.
- This parking area is built on a fill pad that lies in the path of the Redwood Creek drainage creating environmental problems for both Redwood Creek and the Big Lagoon area which lies adjacent to the parking area. Run-off from this parking area goes directly into Redwood Creek.

FIGURE 5-4 Muir Beach Parking Lot Layout



4. Parking Demand

Parking demand estimates are based on observations conducted during peak (August 17 & 18, 2001), shoulder (May 3 & 4, 2002), and off-peak (March 8 & 11, 2001) seasons. The weather on all of the days when observations were made was sunny or partly sunny and otherwise typical of the weather for that season. Data was not collected on any rainy days or days when the weather was abnormal for the season. The traffic and parking conditions on the days when data was collected was normal for the season.

The parking data was collected by one or more observers stationed at the entrance and exit of the parking area. Each observer recorded the license plate number and arrival/departure time of each vehicle as it entered and exited the parking area between 9:00 a.m. and 5:00 p.m. Using this data it was possible to determine the vehicle accumulation, arrival rates, parking lot utilization, and average vehicle duration of stay for each lot. The on-street parking was also monitored at the same time, with the number of vehicles parked along the road manually counted every 15 minutes during the study period. The inclusion of the on-street parking data provides a more accurate picture of the true parking demand at the facility, especially when the established parking areas fill to capacity.

The following parking demand information provides a rough magnitude estimate of the current and future parking demand at Muir Beach. The projected demand figures shown below are based on general growth factors used in the CTMP traffic model and are presented only to provide the reader with a magnitude of the anticipated parking demand. The parking demand forecast will be refined later in the CTMP during the modeling process.

Muir Beach Existing Parking Demand (2002)						
	Peak Season		Shoulder Season		Off Season	
Existing Capacity	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
175	160	200	115	160	30	120

Muir Beach Projected Parking Demand (2023)						
	Peak Season		Shoulder Season		Off Season	
Existing Capacity	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
175	205	255	140	195	35	140

5. Parking Duration

The license plate data was collected at most parking areas and provides information relating to how long the average vehicle is parked in a particular lot. Because the license plate survey only occurred at a select group of parking areas, data is not available for all sites. The average duration of stay for weekday during the various seasons is presented in **FIGURE 5-10.** Similar information for weekend parking is shown in **FIGURE 5-11**. The data indicates that most vehicles stay between one and two hours at each site on

weekdays during the peak season. The data also shows that the duration of stay is consistently longer on weekends. The duration times are typically less in the shoulder and off-season for both weekdays and on weekends. It is acknowledged that the length of stay is heavily dependent on the weather conditions. Weather conditions during the data collection were generally sunny with temperatures that were considered typical for the season.

The data indicates that at Muir Beach the average length of stay varies between 55 and 78 minutes on the typical weekday, and between 83 and 92 minutes on the typical weekend day.

FIGURE 5-10 Weekday Average Duration of Stay

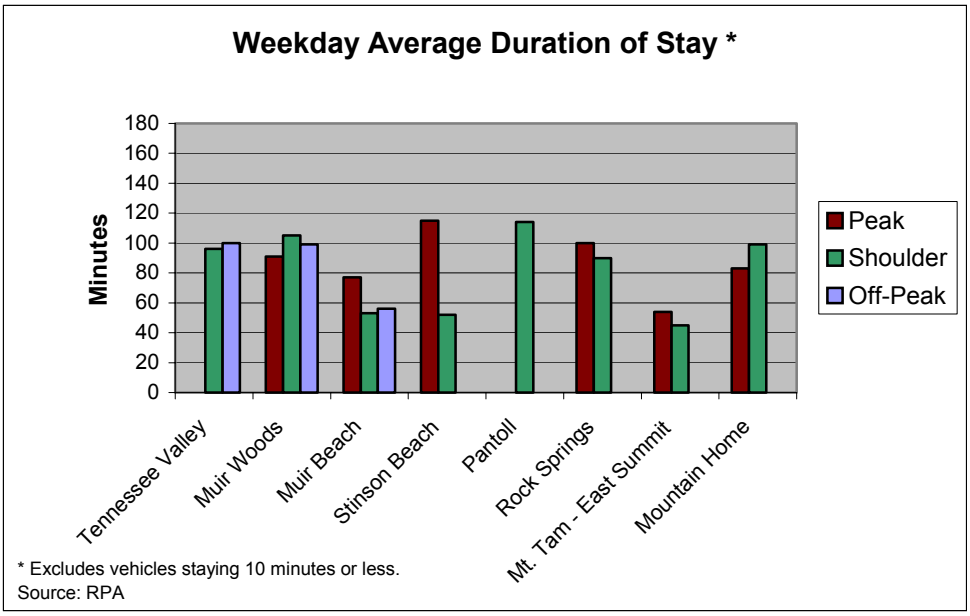
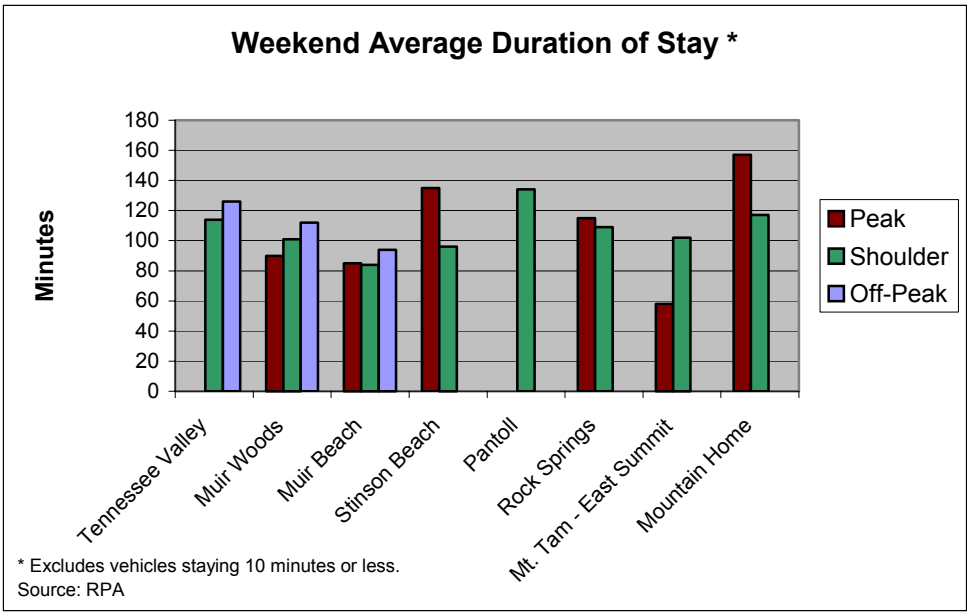


FIGURE 5-11 Weekend Average Duration of Stay



6. Problem and Deficiencies - Muir Beach Overview

Concerns Expressed by Park Managers

- According to NPS managers, the parking area overflows its capacity on approximately 12 days during the peak season.

- Other concerns of the NPS managers include: environmental damage caused by the location of the parking lot at Muir Beach, environmental damage to the dunes and riparian areas caused by foot traffic, the flooding of Pacific Way, emergency access and egress, and site aesthetics. Park managers also expressed concern about the impact of overflow parking on the residents of Muir Beach.

Identified Problems and Deficiencies

Access

- Pacific Way floods regularly during wet years. The bridge on Pacific Way is a one-lane bridge in a state of disrepair. The Pacific Way road is narrow, with several sharp bends that makes access difficult for over-sized vehicles.

Parking and Circulation

- The maximum parking demand observed was 115% of the parking supply. A major overflow event at this parking facility was not observed during the study. The 115%

demand does not represent the maximum overflow that can potentially occur. The maximum hourly arrival rate observed was 122 vehicles/hour.

- When the parking lot overflows, visitors park their vehicles along Pacific Way which significantly compromises emergency vehicle access and causes traffic congestion and safety concerns. When the lot overflows, vehicles park along Muir Woods Road, Shoreline Highway, and along the neighborhood streets of Muir Beach.

- Little or no consideration was given to the aesthetics of the parking area.

- There is no convenient overflow parking facility available.